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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,928	12/10/2003	Tomoo Yanamoto	16869G-100000US	8608
20350	7590	03/30/2005	EXAMINER	
TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834			RICKMAN, HOLLY C	
			ART UNIT	PAPER NUMBER
			1773	

DATE MAILED: 03/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/733,928

Applicant(s)

YAMAMOTO ET AL.

Examiner

Holly Rickman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 14-16, 19 and 30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14, 16 is/are allowed.
- 6) ☒ Claim(s) 15 and 30 is/are rejected.
- 7) ☒ Claim(s) 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

1. The objection to claim 1 is withdrawn.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. The rejection of claims 1-9, 22, 24 and 26 under 35 U.S.C. 102(e) as being anticipated by Bian et al. (US 6599642) is withdrawn.

4. The rejection of claims 13, 16, and 19 under 35 U.S.C. 102(e) as being anticipated by Tomiyasu et al. (US 2002/0119350) is withdrawn.

5. Claim 15 is rejected under 35 U.S.C. 102(e) as being anticipated by Tomiyasu et al. (US 2002/0119350)

Tomiyasu et al. disclose a magnetic recording medium having an “initial growth film” of a CrTi layer formed on a substrate and corresponding to the claimed “first seed layer.” The

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remaining non-initial growth portion of the CrTi corresponds to the claimed “second seed layer”, a “first underlayer” formed from NiAl, CoAl, NiTi, or CoTi, a Cr alloy “second underlayer”, and a magnetic recording layer thereon (see paragraphs 29-30, 35-36, 38, 45, 67-68, 90). Note that paragraph 30 discusses the “initial growth film” of a Cr alloy film containing Ti.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The rejection of claims 10-12 and 28 under 35 U.S.C. 103(a) as being unpatentable over Bian et al. (US 6599642) is withdrawn.

8. The rejection of claims 23, 25, 27, and 29 under 35 U.S.C. 103(a) as being unpatentable over Bian et al. (US 6599642) in view of Abarra et al. (US 6602612) is withdrawn.

9. The rejection of claims 15, 18, and 21 under 35 U.S.C. 103(a) as being unpatentable over Tomiyasu et al. (US 2002/0119350) is withdrawn.

10. The rejection of claims 1, 3-4, 6-7, 9-10, 12, 22, 24, 26, and 28 under 35 U.S.C. 103(a) as being unpatentable over Kawai et al. (US 2003/0152810) is withdrawn.

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11. The rejection of claims 23, 25, 27, and 29 under 35 U.S.C. 103(a) as being unpatentable over Kawai et al. (US 2003/0152810) in view of Abarra et al. (US 6602612) is withdrawn.

12. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomiyasu et al. (US 2002/0119350).

Tomiyasu et al. disclose all of the limitations of the claims as detailed above, except for the claimed range of Cr in the first seed layer (35-70 at%).

Tomiyasu teach that the upper layer, corresponding to the claimed first and second seed layers, is formed from a Cr alloy which contains an element such as Ti in an amount of 10-50 at% and may also contain an additional element in an amount of 10 at% or less (para. 30). Thus, it would have been obvious to one of ordinary skill in the art at the time of invention to choose an amount of Cr from within the broadly disclosed range of 40 at% (100-50-10) to 90 at% (100-10-0) since one of ordinary skill in the art would recognize all values within this range as being functionally equivalent.

***Allowable Subject Matter***

13. Claims 14 and 16 are allowable over the closest prior art to Bian et al. and Tomiyasu et al. Neither reference teaches the claimed combination of layers having a TiAl layer beneath a Cr alloy layer containing Ti, Mo, or W. Bian et al. teach the use of a TiAl but in combination with an overlying RuAl layer. Tomiyasu et al. teach a CrTi seed layer but fail to teach or suggest the use of an underlying TiAl layer.

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14. Claim 19 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The closest prior art to Tomiyasu et al. fails to teach or suggest the claimed thickness for the second seedlayer.

***Response to Arguments***

15. Applicant's arguments filed 1/7/05 have been fully considered but they are not persuasive in view of the new grounds of rejection in view of Tomiyasu.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Rickman whose telephone number is (571) 272-1514. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Holly Rickman", with a stylized flourish at the end.

Holly Rickman  
Primary Examiner  
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March 25, 2005